

K040458

JUN 03 2004

## 510(k) Summary of Safety and Effectiveness

Date: May 7, 2004Submitter: GE Medical Systems *Information Technologies*  
8200 West Tower Avenue  
Milwaukee, WI 53223 USAContact Person: Melissa Robinson  
Phone: 813-887-2133  
Fax: 813-887-2545Device: Trade Name: DASH 3000/4000 Patient MonitorCommon/Usual Name: Physiological Patient MonitorClassification Names:

21 CFR 868.1400 Analyzer, Gas, Carbon Dioxide, Gaseous-Phase	CCK
21 CFR 868.2375 Breathing Frequency Monitor	FLS
21 CFR 870.1025 Detector and Alarm, Arrhythmia	DSI
21 CFR 870.1100 Monitor, Blood Pressure, Indwelling	CAA
21 CFR 870.1130 Noninvasive Blood Pressure Measurement System	BXD
21 CFR 870.1100 Blood Pressure Alarm	DSJ
21 CFR 870.1425 Programmable Diagnostic Computer	DQK
21 CFR 870.2340 Electrocardiograph	FYW
21 CFR 870.1435 Monitor, Cardiac Output, Thermal (Balloon Type Catheter)	KFN
21 CFR 880.2910 Monitor, Temperature (with probe)	BWX
21 CFR 870.2300 Monitor, Cardiac (Incl. Cardiotachometer & rate alarm)	DRT
21 CFR 870.2700 Oximeter, Pulse	DQA
21 CFR 870.1025 Monitor, Physiological, Patient (With Arrhythmia Detection Or Alarms)	MHX
21 CFR 870.2770 Plethysmograph, Impedance	DSB

Predicate Device: K033304 DASH 3000/4000 Patient Monitor

Device Description: The DASH 3000/4000 Patient Monitor is a device that is designed to be used to monitor, display, and print a patient's basic physiological parameters including: electrocardiography (ECG), invasive blood pressure, non-invasive blood pressure, oxygen saturation, temperature, impedance respiration, end-tidal carbon dioxide, oxygen, nitrous oxide and anesthetic agents. Other features include arrhythmia, cardiac output, cardiac and pulmonary calculations, dose calculations, PA wedge, ST analysis, and interpretive 12 lead ECG analysis (12SL). Additionally, the network interface allows for the display and transfer of network available patient data.

Intended Use: The DASH 3000/4000 Patient Monitor is intended for use under the direct supervision of a licensed healthcare practitioner. The intended use of the system is to monitor physiologic parameter data on adult, pediatric and neonatal patients. The Dash is designed as a bedside, portable, and transport monitor that can operate in all professional medical facilities and medical transport modes including but not limited to: emergency department, operating room, post anesthesia recovery, critical care, surgical intensive care, respiratory intensive care, coronary care, medical intensive care, pediatric intensive care, or neonatal intensive care areas located in hospitals, outpatient clinics, freestanding surgical centers, and other alternate care facilities, intra-hospital patient transport, inter-hospital patient transport via ground vehicles (i.e., ambulance, etc.) and fixed and rotary winged aircraft, and pre-hospital emergency response.

Physiologic data includes but is not restricted to: electrocardiogram, invasive blood pressure, noninvasive blood pressure, pulse, temperature, cardiac output, respiration, pulse oximetry, carbon dioxide, oxygen, and anesthetic agents as summarized in the operator's manual.

The DASH 3000/4000 Patient Monitor is also intended to provide physiologic data over the Unity network to clinical information systems and allow the user to access hospital data at the point-of-care.

This information can be displayed, trended, stored, and printed.

The DASH 3000/4000 Patient Monitor was developed to interface with non-proprietary third party peripheral devices that support serial data outputs.

Technology: The DASH 3000/4000 Patient Monitor employs the same functional technology as the predicate devices.

Test Summary: The DASH 3000/4000 Patient Monitor complies with the following voluntary standards: ANSI/AAMI EC13, ANSI/AAMI SP10:1992; IEC 60601-1, 60601-1-am1, 60601-1-am2; IEC 60601-1-1, 60601-1-1-am1; IEC 60601-1-2; IEC 60601-2-27; IEC 601-2-30; IEC 601-2-34; UL 2601. The following quality assurance measures were applied to the development of the system:

- Requirements specification review
- Software and hardware testing
- Safety testing
- Environmental testing
- Final validation

Conclusion: The results of these measurements demonstrated that the DASH 3000/4000 Patient Monitor is as safe, as effective, and performs as well as the predicate devices.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

JUN 03 2004

Ms. Melissa Robinson  
Regulatory Affairs Specialist  
GE Medical Systems Information Technologies  
8200 West Tower Ave.  
Milwaukee, WI 53223

Re: K040458  
Trade/Device Name: GE Dash 3000/4000 Monitor  
Regulation Number: 21 CFR 870.1025  
Regulation Name: Monitor, Physiological, Patient(With Arrhythmia Detection Or Alarms)  
Regulatory Class: Class II  
Product Code: MHX  
Dated: May 7, 2004  
Received: May 11, 2004

Dear Ms. Robinson:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set

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forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050. This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (301) 594-4646. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Chiu Lin", with a stylized flourish at the end.

Chiu Lin, Ph.D.

Director

Division of Anesthesiology, General Hospital,

Infection Control and Dental Devices

Office of Device Evaluation

Center for Devices and

Radiological Health

Enclosure

510(k) Number (if known):

Device Name: DASH 3000/4000 Patient Monitor

Indications For Use:

The Dash 3000/4000 Patient Monitor is intended for use under the direct supervision of a licensed healthcare practitioner. The intended use of the system is to monitor physiologic parameter data on adult, pediatric and neonatal patients. The Dash is designed as a bedside, portable, and transport monitor that can operate in all professional medical facilities and medical transport modes including but not limited to: emergency department, operating room, post anesthesia recovery, critical care, surgical intensive care, respiratory intensive care, coronary care, medical intensive care, pediatric intensive care, or neonatal intensive care areas located in hospitals, outpatient clinics, freestanding surgical centers, and other alternate care facilities, intra-hospital patient transport, inter-hospital patient transport via ground vehicles (i.e., ambulance, etc.) and fixed and rotary winged aircraft, and pre-hospital emergency response.

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Prescription Use X  
(Part 21 CFR 801 Subpart D)

And/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 807 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE  
IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

(Division Sign-Off)

Division of Anesthesiology, General Hospital,  
Infection Control, Dental Devices

510(k) Number: 12040458